

Figure 1

Clone S1+27 protein sequence (SEQ ID No. 1)

1 KSSPLLIRMEESLNIVKYTAFLYNDQLIWSGLEQDDMRILYKYLTTSLFP 50
51 RHIEPELAGRDSPIRAEMPGNLQHYGRFLTGPLNLNDPDAKCRFPKIFVN 100
101 TDDTYEELHLIVYKAMSAAVCFMIDASVHPTLDFCRLDSIVGPQLTVLA 150
151 SDICEQFNINKRMSGSEKEPQFKFIYFNHMNLAEKSTVHMRKTPSVSLTS 200
201 VHPDLMKILGDINSDFTRVDEDEEIIVKAMSDYWVVGKKSDRRELYVILN 250
251 QKNANLIEVNEVKKLCATQFNNIFFLD 277

Figure 2

Clone S1+28 protein sequence (SEQ ID No. 2)

1 FAVDAKALPQNKPRLTQEEIAQRERARQRHAEKLAAAQQQAPLEPTQD 50
51 GSAIETCPKGDEPRGDEQQVESMTPKPVLQEENNQESFIAFARVFSGVAR 100
101 RGKKIFVLGPKYSPLEFLRRVPLCFSAPPDGLPQVPHMAYCALENLYLLM 150
151 GRELEYLEEVPVPGNVLGIGGLQDFVLKSATLCSLPSCPPFIPLNFEATPI 200
201 VRVAVEPKHPSEMPQLVKGMKLLNQADPCVQILIQETGEHVLVTAGEVHL 250
251 QRCLDDLKERFAKIHISVSEPIIPFRETITKPPVDMVNEEIGKQQKVAV 300
301 IHQMKEQSKIPEGIQVDSDGLITITTPNKLATLSVRAMPLPEEVHQILE 350
351 ENSDLIRSMEQLTSSLNEGENTHMIHQKTQEKIWEFKGKLEQHLTGRRWR 400
401 NIVDQIWSFGPRKCGPNILVNKSEDFQNSVWTGPADKASKEASRYRDLGN 450
451 SIVSGFQLATLSGPCEEPLMGVCFVLEKWDL SKFEEQGASDLAKEDRRK 500
501 MKPVLVEMKTKSYKMAALRPLRRGHHRKENLHS LTAMDLSQDS 543

Figure 3

Clone S1+19 protein sequence (SEQ ID No. 3)

1 MKAVKSERERGSRRRHRDGDVVL PAGVVVKQERLSPEVAPP AHRPDHSG 50
51 GSPSPPTSEPARSGHGNRARGVSRSPKKKNASGRRSKSPRSKRNRSP 100
101 HHSTVKVKQEREDHP RR GREDR QHREP SEQE HRR ARNS DRDR HRGH SHQR 150
151 RTSNERPGSGQGQGRDRDTQNLQAQEEERE FYNARRRE HRQR NDVG GGGS 200
201 ESQELVPRPGNNKEKEVPAKEKPSFELSGALLE DTNTFRGVV IKYSEPP 250
251 EARIPKKRWRLYPFKNDEVLPV MYIHRQSAYLLGRHRR IADIPIDHPSCS 300
301 KQHAVFQYRLVEYTRADGTVGRRVKPYIIDLGSGNGTFLNNKRIEPQRYY 350
351 ELKEKDVLKFGFSSREYVLLHESSDTSEIDRK DDEEEEEEVSDS 396

Figure 4

Protein sequence of NIPP-1 domain (SEQ ID No. 4) homologous to SNIP 1.

1 YLFGRNPDLCDFTIDHQSCSRVHAALVYHKHLKRVFLIDLNSTHGTFLGH 50

51 IRLEPHKPQQIPIDSTVSFGASTRAYTLREKP 82

Figure 5

Clone S1+19 Smad binding domain protein sequence (SEQ ID No. 5)

1 RHRGHSHQRRTSNERPGSGQQGRDRDTQNLQAQEEEREFYNARRREHRQ 50
51 RNDVGGGSSESQELVPRPGGNNEKEVPAKEKPSFELSGALLEDNTNFRG 100
101 VVIKYSEPPEARIPKKRWRLYPFKNDEVLPVMYIHRQSAYLLGRHRIAD 150
151 IPIIDHPSCSKQHAVFQYRLVEYTRADGTGRRVKPYIIDLGSGNGTFLNN 200
201 KRIEPQRYYELKEKDVLKFGFSSREYVLLHESSDTSEIDRKDDEEEEE 250
251 EVSDS 255

Figure 6

Clone S1+19 C. elegans homology protein sequence

(SEQ ID No. 6)

```
1 GALTEDTNTFRGVVIKYNEPPEAKKPNAWRRLYPFKGEESLQVLYIHRQS 50
51 AYLIGRDHKIADIPVDHPSCSKQHAVLQFRSMPFTRDDGTKARRIMPYII 100
101 DLGSGNGTFLNEKKIEPQRYIELQEKDMLKFGFSTREYVVMKEREITEEE 150
151 LAEGEDVKKEESD 163
```

Figure 7

Clone S1+12 protein sequence (SEQ ID No. 7)

```
1 EFGTRRMMEGLDDGPDFLSEEDRGLKAINVDLQSDAALQVDISDALSERD 50
51 KVKFVHTKSSLPNFKQNEFSVVRQHEEFIWLHDSFVENEDYAGYIIPPA 100
101 PPRPFDASREKLQKLGEGEGSMTKEEFTKMKQELEAEYLAIFKKTVAMH 150
151 EVFLCRVAAHPILRRDLNFHVLFLEYNQDLSVRGKKKKNSRSFGLLRQ 198
```

Figure 8

Clone S1+12-2 protein sequence (SEQ ID No.8)

1 HASGLGAAMMEGLDDGPDFLSEEDRGLKAINVDLQSDAALQVDISDALSE 50
51 RDKVKFTVHTKSSLPNFKQNEFSVVRQHEEFIGWLHDSFVENEDYAGYIIP 100
101 PAPPRPFDASREKLQKLGEGEGSMTKEEFTKMKQELEAEYLAIFKKTVA 150
151 MHEVFLCRVAAHPILRRLNHFHVLEYNQDLSVRGKNKKEKLEDFFKNMV 200
201 KSADGVIVSGVKDVDDFFEHERTFLLEYHNRVKDASAKSDRMTRSHKSAA 250
251 DDYNRIGSSLYALGTQDSTDICKFFLKVSSELFDKTRKIEARVSADEDLKL 300
301 SDLLKYYLRESQAQAKDLLYRRSRSLVDYENANKALDKARAKNKDVLQAET 350
351 SQQLCCQKFEKISESAKQELIDFKTRRVAAFTRKNLVELAELELKHAKGNL 400
401 QLLQNCLAVLNGDT 414

Figure 9

Clone S1+12-5 protein sequence (SEQ ID No. 9)

1 MTTLTEIKLLPSLVLLVCCEYLAIFFKKTVAAMHEVFLCRVAAHPILRRDLN 50
51 FHFLEYNQDLSVRGKNKEKLEDFFKNMVKSADGVIVSGVKDVDDFFEH 100
101 ERTFLLEYHNRVKDASAKSDRMTRSHKSAADDYNRIGSSLYALGTQDSTD 150
151 ICKFFLKVSELFDFKTRKIEARVSADEDLKLSDLKYYLRESQAAKDLLYR 200
201 RSRSLVDYENANKALDKARAKNNDVLQAETSQQLCCQKFEKISESAKQEL 250
251 IDFKTRRVAAFRKNLVELAELELKHAKGNLQLLQNCLAVLNGDT 294

Figure 10

Clone S3+1 DNA sequence (SEQ ID No. 10)

1 ATGTCAAGTGGAATTGGCAGAGAGGC
AAAGAAGAAGAAGGAGTTATGG 50
51 TTTCTAATAGAACGATATCAGGAAGGAAGTGAATAGAGCTTCTAAACTGA 100
101 AATGCTGTGTTGCAAGAAAAATGGTGCTTCATTGGATGTGTTGCACCC 150
151 CGATGTAAACGAAGTTATCATTCCATGTGGACTTCAGAGAGAATGTAT 200
201 TTTCCAGTTACTGGCAATTTCGTCATTGTTGGGACCATCGACCTG 250
251 TTCAAATAATTACATCTAATAATTATAGAGAGTCCTTACCATGCACCATT 300
301 TGCTTGGATTATTGAGCCTATTCCAAGTTATAACATATTACGAAGTCC 350
351 TTGTTGTAAGAACGCTTGGTTCATAGAGACTGTTACAGGTTCAAGCAA 400
401 TAAATGCGGGAGTGTGTTCTTAGGTGTACAATATGCAATAATAGTGAC 450
451 ATCTTCAGAAAAGAGATGTTGAGAATGGGAATTCAATTCTGAAAAAGA 500
501 TGCTTCCTGGATTAGAGGAAAACGCTTATCAAGAGCTTCTGCAGCACT 550
551 ATGAGCGTTGTATGTTGAAAGATGTCGTTGCAAAGAAGGGCGAGACTAT 600
601 AATGCACCTGATAGCAAATGGGAAATAAAGCGCTGTCAGTGTGTTGTC 650
651 CAGTGGCACACATTAGCCTGCTCCTCATTACGGTCATGGAGCAAAATT 700
701 GGGAGTGTGGAATGTAGGGTATTATCTACAATTCAAGGAGAGTTCAA 750
751 ACAGCCAAAAAACATGTATTACCAATTCTAATAATGTGGGATTACAGA 800
801 TTGTTGTTGGAAGAGTCATCACCTAAATTACCCAGACAGTCACCTGGAT 850
851 CCCAGAGTAAAGATCTACTGAGGCAAGGCAGCAAATTAGAAGAAATGTA 900
901 TCAACACTATTAATAGAGTTAGGATTCAAATTAAAAAAAAAAAAAAA 950
951 ACTCGAGAAGNTGGANTNTCGCCAGAGGTTGGTCAA 989

Figure 11
Clone S3+1 protein sequence (SEQ ID No. 11)

1 MSSGIWQRGKEEEGVYGFIEDIRKEVNRAASKLKCCVCKNGASIGCVAP 50
51 RCKRSYHFPCLQRECIFQFTGNFASF CWDHRPVQIITSNNYRESLPCTI 100
101 CLEFIEPIPSYNILRSPCCKNAWFHRDCLQVQAINAGVFFFRC TICNNSD 150
151 IFQKEMLRMGIHIPEKDASWELEENAYQELLQHYERCDVRRCRCKEGRDY 200
201 NAPDSKWEIKRCQCCGSSGTHLACSSLRSWEQNWECLECRGIIYNSGEFQ 250
251 TAKKHVLPNSNNVGITDCCLLEESSPKLPRQSPGSQSKDLLRQGSKFRRNV 300
301 STLLIELGFQIKKKKKLEKXGXFARGLV 329

Figure 12

Clone S3+12 DNA sequence (SEQ ID No. 12)

1 AGGAAAGCTACAGAAATTAGCACTGCAGTGGTCAGAGGTAGCTACCAT 50
51 TGGCAGTTCTCCAGTTCTATAGCCAGTCAGCTATAGCTACAGGTCAACC 100
101 AGGCAGCAGGGATTGGAAACCAGGCAACAGGAATTGGACATCAGACAATA 150
151 CCAGTTAGCCTCCAGCAGCAGGAATGGGTATCAGGCCAGAGGAATGAG 200
201 CCTGCAGTCAAATTACCTTGGACTAGCGGCAGCACCTGCAATTATGAGTT 250
251 ATGCAGAATGTTCTGTCCTAACATTGGAGTGACTGCTCCCTCATGCAGCCA 300
301 GTTCAGGCCCGAGGTGCTGTGCCTACCGCTACCATTATAGAACCAACCACC 350
351 ACCACCTCCTCCTCCTCCTCACCACCAAGCTCCAAAATGCCAC 400
401 CACCTGAAAAGACAAAAAAAGGAAGGAAAGACAAGGCAAAGAAGAGTAAG 450
451 ACCAAAATGCCATCTTGGTAAAAAGTGGCAGAGTATCCAGCGTGAGTT 500
501 AGATGAAGAGGACAATTCTAGTTCCAGTGAAGAGGATGGGAATCAACTG 550
551 CACAGAAGCGAATTGAAGAGTGGAAACAGCAGCAGCTGGTAGTGGCATG 600
601 GCAGAGAGAAATGCTAATTTGAAGCCCTCCTGAGGATTGGAGAGCAAG 650
651 GCTGAAGAGAAGGAAAATGGCTCCAAACACATAGTTTAAGTTTTAAA 700
701 ACTTTTTGTATTATTGTTGTTGTTCAGTTCAAAGTCTTAACCAG 750
751 TTTTATTGTCAAATAAACTATAATGTTATGGGGGAGATCTTATAAATT 800
801 CCTGGGCAAGAGTGTATGCATACAAAGTTCACTTTGTGAAATGTAAT 850
851 TTTTCTGTTTGCAAAGGGATGAGGTGATTGGAATTGCTTGACCATGC 900
901 TGCCTTATTCTCAAACCTGGCAAACCTAGCATGTTAGGTGTATTAACCTC 950
951 ATCAGTCTGAAGAACATGTGGCTCATGAGTATAACACTTCTGTAGAGGA 1000
1001 CTCCCTGACAAAAGTGAAGAATTAACTTCTCCTCCAGAACAAAGTGCATT 1050
1051 CAGAAGGCAGCTCTGCATTCTACCTTGCTTGACTGGAATTGTCTGAAGCT 1100
1101 TTTTCTGGCCTCTTCTCTAGTCGCCACCCCTGAAGTGTGAGGTCTA 1150
1151 AGTGGTTACCTCGTGTGATAGATGGCCACACTCTTAGAGTAGTTCTC 1200
1201 ATAAGTTCTAGAACTGGTAGCTCGGCGTTGCACACTAGGTGGCATAC 1250
1251 AGGCAGCAGCAGGTGTTCATATCCTGATTTGAGAATTCCCTCAAGT 1300
1301 ATGTGGCAGTAAATACAACAAGACACTCTATGTATTAATGTCTCCATTGT 1350
1351 CTTAACCCGTGTTCCAAAACAAAATTCACCTCCTTCTTATGTGAATGTA 1400
1401 TTCTCCATAAAATTCCAGTATTTAAAAAGCAGTTACTGTTCTGTACTTT 1450
1451 CTGTTGTATCACAATCAGGTAAAAGTCACCTTAAACTGAGGAAACGGCAA 1500
1501 ATTGTGTTTAAAGCTTTGTATTTCTCCAGTTCTGACCTTGTAAATT 1550
1551 TGTATATATGCACTAATAAAGCTTTTTATAATCCTGAAAAAAAAAAA 1600
1601 AAAAAAAAAAAACTCGAGAAGCTTGGACTTCTCGCCAGAGGTTGG 1650
1651 TCAAGTCTCCAATCAAGGTTGTC 1673

Figure 13

Clone S3+12 protein sequence (SEQ ID No. 13)

1 EFGTRRKATEISTAVVQRSATIGSSPVLYSQSAIATGHQAAGIGNQATG 50
51 IGHQTIPVSLPAAGMGHQARGMSLQSNYLGLAAAPAIMSYAECSVPIGVT 100
101 APSLQPVQARGAVPTATIIIEPPPPPPPPPPPPAPKMPPEKKGRKD 150
151 KAKKSKTKMPSLVKKWQSIQRELDEEDNSSSEEDRESTAQKRIE WKQQ 200
201 QLVSGMAERNANFEALPEDWRARLKRRKMAPNT 233

Figure 14

Clone S3+103 DNA sequence (SEQ ID No. 14)

1 GAATTGGCACGAGGCAGTCATTGAGCTGCGACCCTTGTCAACGCC 50
51 GTTGGGCAAGCCAGCTGCTGGAGGTGCCGAGAATCTGAGTTGGCAAGC 100
101 AGCCAGGTCTGGAAACTAATATTTAAAAATGACTACACCAAACAAGACA 150
151 CCTCCTGGTGCTGACCCAAGCAGTTGGAAAGGACTGGAACAGTACGGGA 200
201 AATTGGGTACAAGCTGTTGGTCACTCTCATCTTGCACCAACCAGGATTG 250
251 GAGTGGATCAGTTACGAGATGACAATCTAGAAACTTATTGGCAATCAGAT 300
301 GGTTCCCAGCCTCATTAGTGAACATCCAATTCAAGAAGAAAAACAAACAGT 350
351 GAAGACATTATGTATTTATGCAGACTACAAATCTGATGAAAGCTATACTC 400
401 CAAGCAAGATCTCAGTCAGAGTAGGAAATAATTTCACAACCTTCAAGAA 450
451 ATTCGGCAACTTGAGTTGGTGGAACCAAGTGGCTGGATTCATGTTCCCTT 500
501 AACTGACAATCATAAGAAGCCAACTCGTACATTGATACAGATTGCTG 550
551 TTCTAGCCAATCACCAGAATGGAAGAGACACCCATATGAGACAAATTAAA 600
601 ATATACACACCAGTAGAAGAGAGCTCCATTGGTAAATTCCTAGATGTAC 650
651 AACTATAGATTCATGATGTATCGTTCAATAAGGTGACTTTAAAATGAGA 700
701 CGAAAATCATTAAACGTATCTTGTCTTATCCTGTATTTAAATAATATA 750
751 TCATGTACCTTATTGAACAAGGCATCCGTATATCTAATTTGTATATG 800
801 TTTAAAAATATTTATTGTAACTTGACAAATAATTGGGGTCATATTA 850
851 TCTTTATTTCTTAACATGTAATAAGCTCACATATTTACATTAAAAA 900
901 AAAAAAAAAAAAAAAACTCGAGAAG 926

Figure 15

Clone S3+103 protein sequence (SEQ ID No. 15)

1 EFGTRRTSLSCDPCSTPLGKPAAGGAENLSFGKQPQLETNILKMTTPNKT 50
51 PPGADPKQLERTGTVREIGSQAVWSLSSCKPGFGVDQLRDDNLETYWQSD 100
101 GSQPHLVNIQFRRKTTVKTLCIYADYKSDESYTPSKISVRVGNNFHNLQE 150
151 IRQLELVEPSGWIHVPLTDNHKKPTRTFMIQIAVLANHQNGRDTHMRQIK 200
201 IYTPVEESSIGKFPRCTTIDFMMYRSIR*L*NETKIIKRIFVLILYLNNI 250
251 SCTFIEQGIRYI*FCICLKIFYCNFDK*IWGHIIFIFFNM**SSHILH*K 300
301 KKKKKNSR 308

Figure 16

Clone S3+125 DNA sequence (SEQ ID No. 16)

1 CAGGAATCTGTCCGAAGATAATTGAGGCAGAAGAGTCCAGAATGGGCCTC 50
51 ATCATCGTCAATGCCTGGTACGGGAACTTGTCAATGACAAGAGCAGGAA 100
101 GAGCGAGAAGGTGAAGGTGATTGACGTGACTGTGCCCTGCAGTGCCTGGG 150
151 TAAGGACTCGAACGCTCATCCTCACGAGGCCTCCAAGCTGGCTGCCTGGC 200
201 TTTTATGACCCGTGTGGGGAAAGAGAAGAACCTGAAAGTGCCTATCA 250
251 GTTCCGGGGCGTCCTGCATCAGGTGATGGTGCTGGACAGTGAGGCCCTCC 300
301 GGATACCAAAGCAGTCCCACAGGATCGATAACAGATGGATAAACTGCCAAG 350
351 AACCAAGATTTAAAAGGCCGAAAAAAATTTTCTGGAGTCTACAAA 400
401 TTTGGAAATGAAAAAACCCAGACATCAGATGTTTATTTATATTATTA 450
451 TTATAGAAGGTGGTACCATTATCAATTATGTGAAGGGACATGCAGACACC 500
501 CCAGCACTGGTATCTGAGTAACGGCTAACGAAACCTCCCTCTGGTTTG 550
551 AAAAGCAGTTGGGTTGTCCAATTCTGTAACATTCTCCATTAA 600
601 AAAGGTTCTCTGACGGCCCCACGGCCCGAGCCGCGGTGAGCGTCGTGTT 650
651 GCATGAGCCTGGGCCCGGGCTTCCGTGCGCCTCTGCCGCAGGTGCTTC 700
701 TGGGCACCCATCCTCTGCGTTTCAATTGAGTCAGTACAGAAGGCAC 750
751 TCACCAATAAACCTTCTGAAAGCAAAAAAAAAAAACTCG 800
801 AGAAGGTTGGACTTGTGCCAGAGGTTGGTCAAGTNTCCAA 844

Figure 17

Clone S3+125 protein sequence (SEQ ID No. 17)

1 IRHEAAGICPKIIAEESRMGLIIVNAWYGNFVNDKSRKSEKVKVIDVTV 50
51 PCSAWVRTRSSSRGLQAGLPGFYDPCVGEEKNLKVLYQFRGVLHQVMVL 100
101 DSEALRIPKQSHRIDTDG 118

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Figure 18

Clone S1+30 DNA sequence (SEQ ID No. 18)

1 GAATTCGGCACGAGGC GGACAAAGGG AATCAAAGTTGTGGGAAAATGGAA 50
51 GGAAGTGAAGATTGACCCAAATATGTTGCAGATGGACAGATGGATGACT 100
101 TGGTGTGCTTGAGGAATTGACAGATTACCAGTTGGTCTCCCTGCCAAG 150
151 AATTCCCTCCAGCTCTCTCAAAGGAAGCACCCAAGAGAAAGGCACAA 200
201 GCTGTTTCAGAAGAAG 216

Figure 19

Clone S1+30 protein sequence (SEQ ID No. 19)

1 EFGTRRTKGIKVVGKWKEVKIDPNMFADGQMDDLVCFEELTDYQLVSPAK 50

51 NSLQLSSQRKHPRERHKLFQKK 72

Figure 20

Clone S3+14 5' DNA sequence (SEQ ID No. 20)

1 CGATTCTAGCGTATATGGAGGATCGCAGAAACAGAAGTGGCAAAGATG 50
51 TAAAAAAAATAATAAGGCAGAATTGAACTGTTGGGAATGGAACCAGTAC 100
101 AGACAGCTAACTCTAGAAATGGGAAAAAGGGTCATCACACTGAAACGGTG 150
151 TTCAACC GGTTTGCCAGGGCCTATTGCACCAGAGAGCAGCAAGAACGCG 200
201 GCCCGTAGATGCGACCAGACCTTCTAAGATGATGCCCTCATGCAGGTG 250
251 GAAGCATCGGT 261

Figure 21

Clone S3+14 3' DNA sequence (SEQ ID No. 21)

1 AGAGGCCCTCATGCAGGGTGGAAGCACTGGGTCTCTATCTCTGCATAACA 50
51 CGTTCCAACACAGCAGTAGTGGCCTACAGTCTGTGTCATCTTGCGTCAC 100
101 AGCAGTGCCACTTCTGCATCTTGCCTTTATGCCATTGTGATGGGTGG 150
151 TGCACCACATCCCCTCATGTAGACTCCAGCACCATGCTTCATCACCACC 200
201 ACCACCACCCCCACCCCCACCATCACCAACCACCATCCAGGCTTGAGA 250
251 GCCCCTGGCTACCCCTCTTACCCAGTGAACCGCCTCTGGTACTACCTT 300
301 GCGGTTGCCACCACTGCAACCTGAGGAGGATGACGATGAGGATGAAGAAG 350
351 ATGATGATGACTTATCTCAGGGCTATGATAGCTCAGAAAGGGACTTCTCA 400
401 CTCATTGATGATCCTATGATGCCAGCTAACTCAGACTCCAGTGAAGATGC 450
451 TGATGACTGAAGCCCCAGCATGGGCCATTGCTTGGCGGCTGCTGTAT 500
501 TTTCATTTACTCTGGCCCTTGGACTATGGAAACGTGGGAGGGGCAGG 547

Figure 22

Clone S3+14 protein sequence (SEQ ID No. 22)

1 EALMQGGSTGSLSLHNTFQHSSSGLQSVSSLGHSSATSASLPFMPFVMGG 50
51 APSSPHVDSSTMLHHHHHHPHPHHHHHPGLRAPGYPSSPVTTASGTTL 100
101 RLPPLQPEEDDDEDEEDDDDLSQGYDSSERDFSLIDDPMMPANSDSSEDA 150
151 DD 152

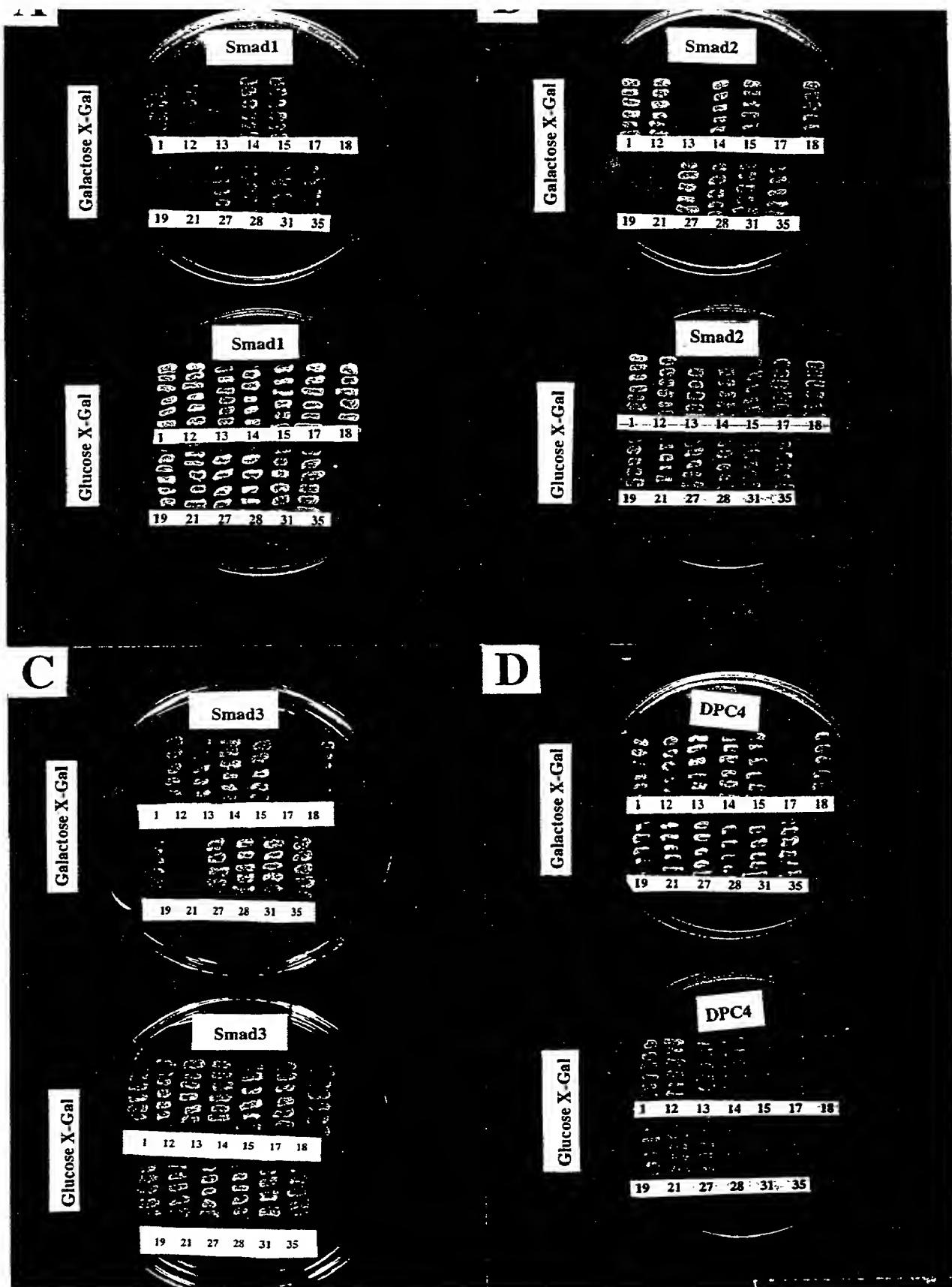


FIGURE 23

FIGURE 24

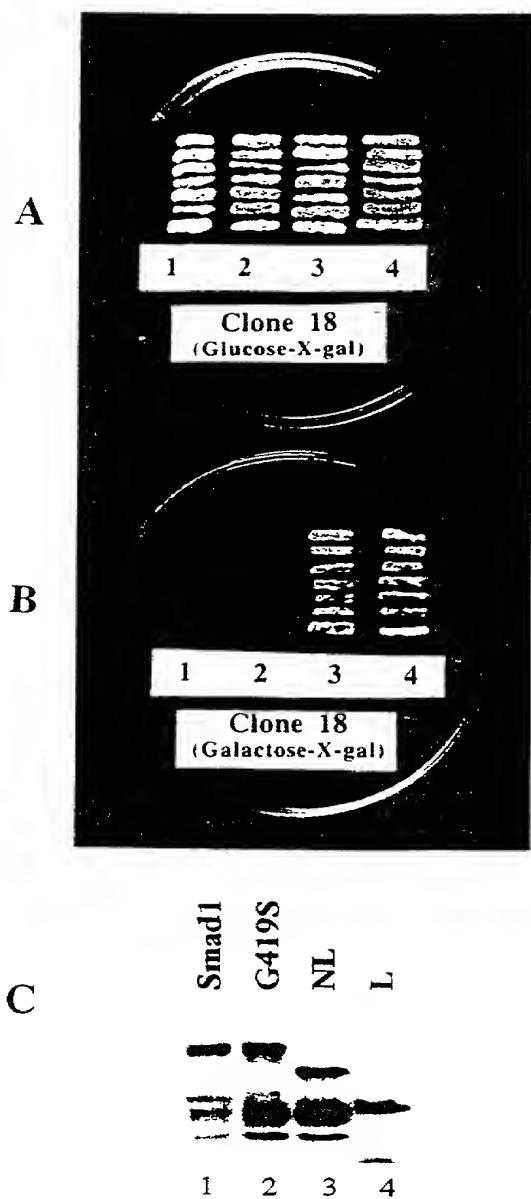


FIGURE 25

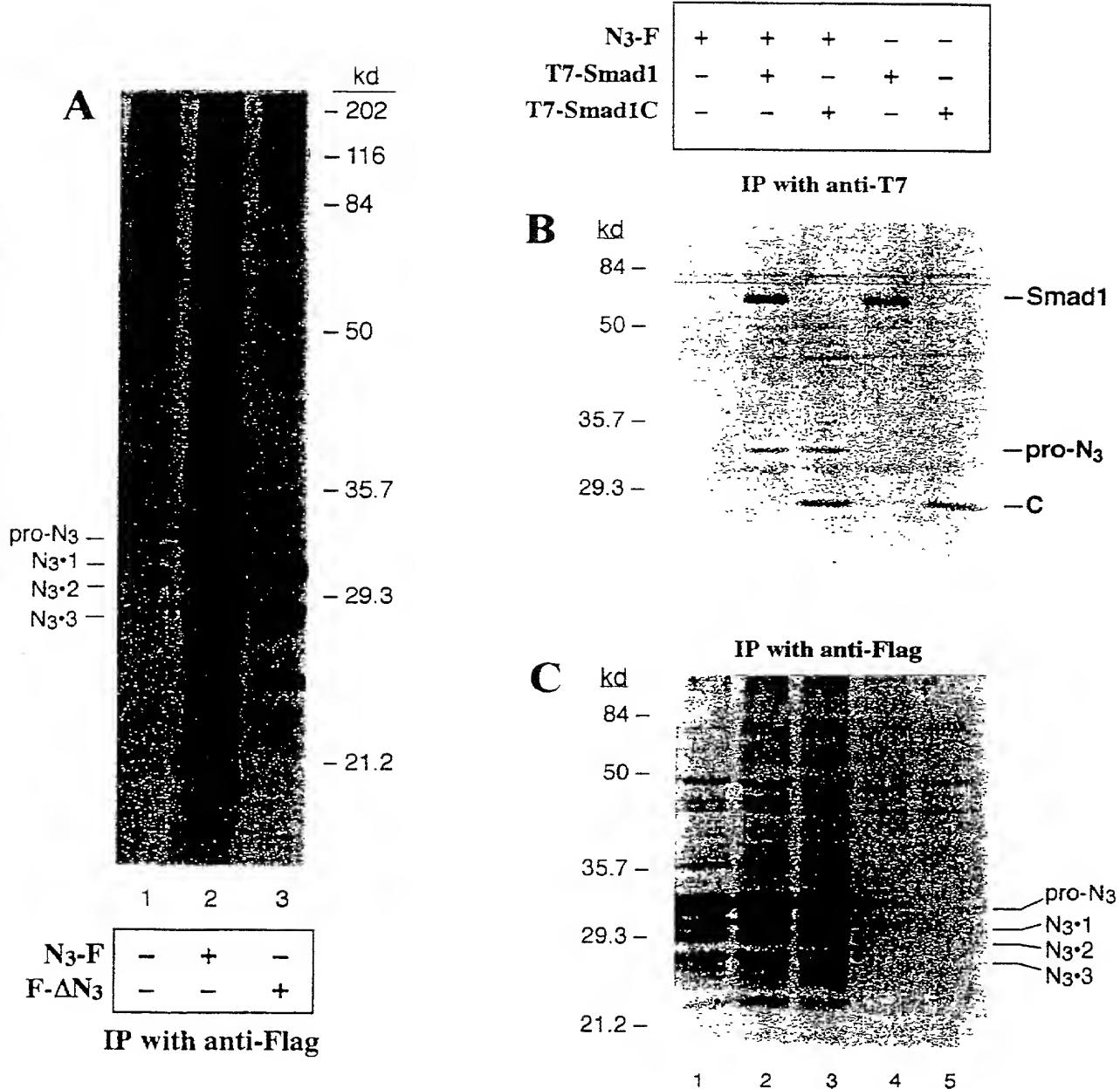


FIGURE 26

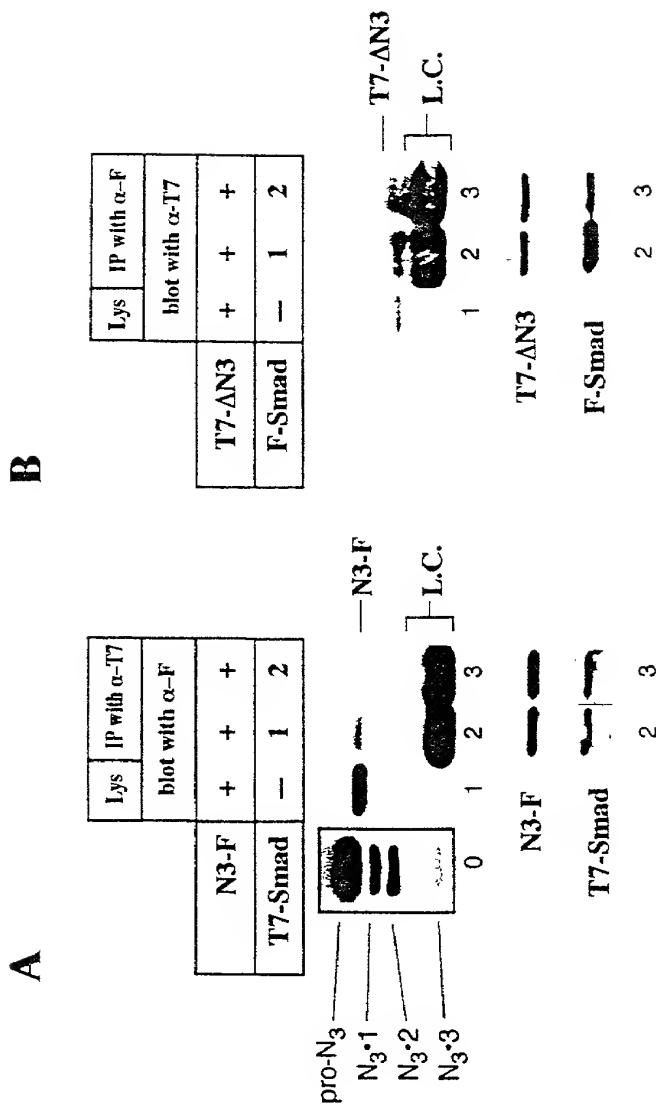
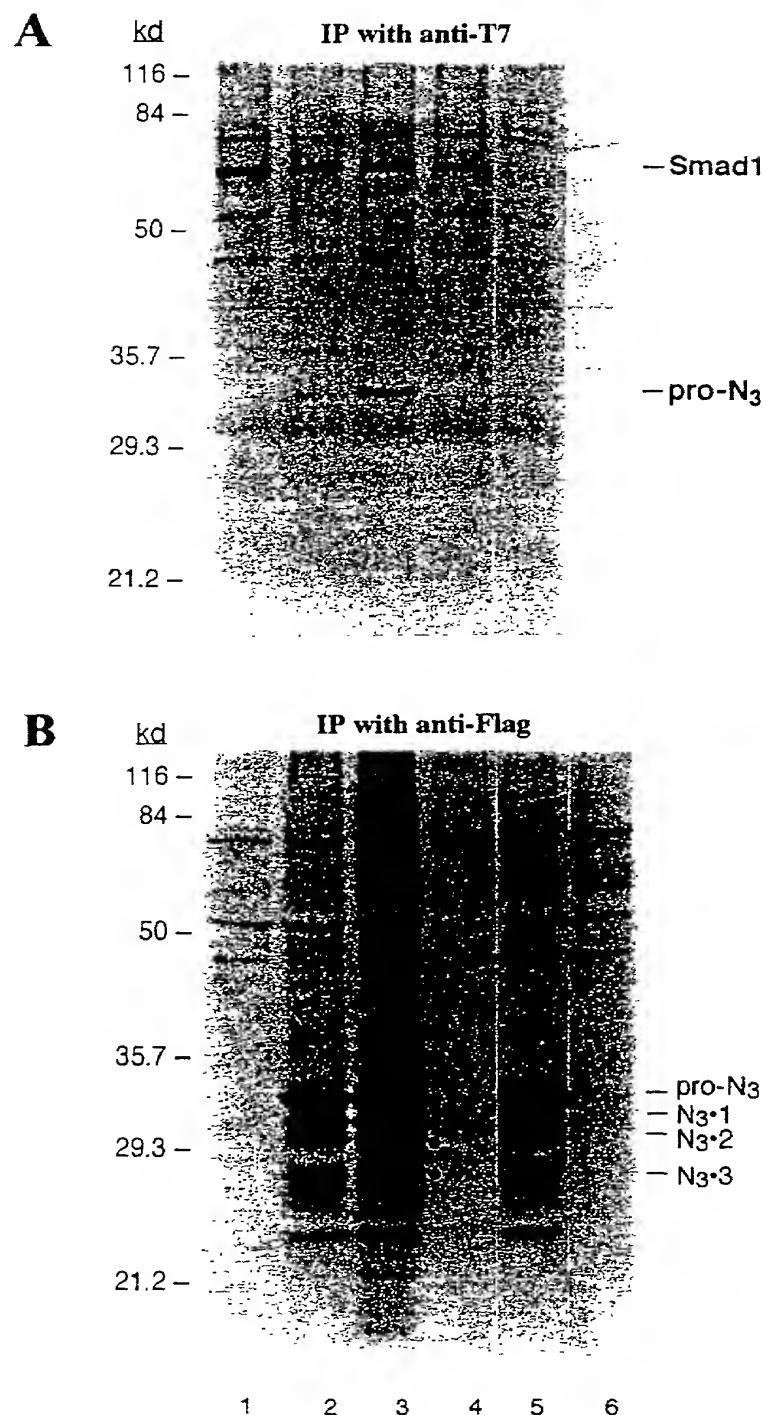


FIGURE 27

N3-F	-	+	+	-	+	-
T7-Smad1	+	+	+	+	-	-
HA-ALK3QD	-	-	+	+	+	+



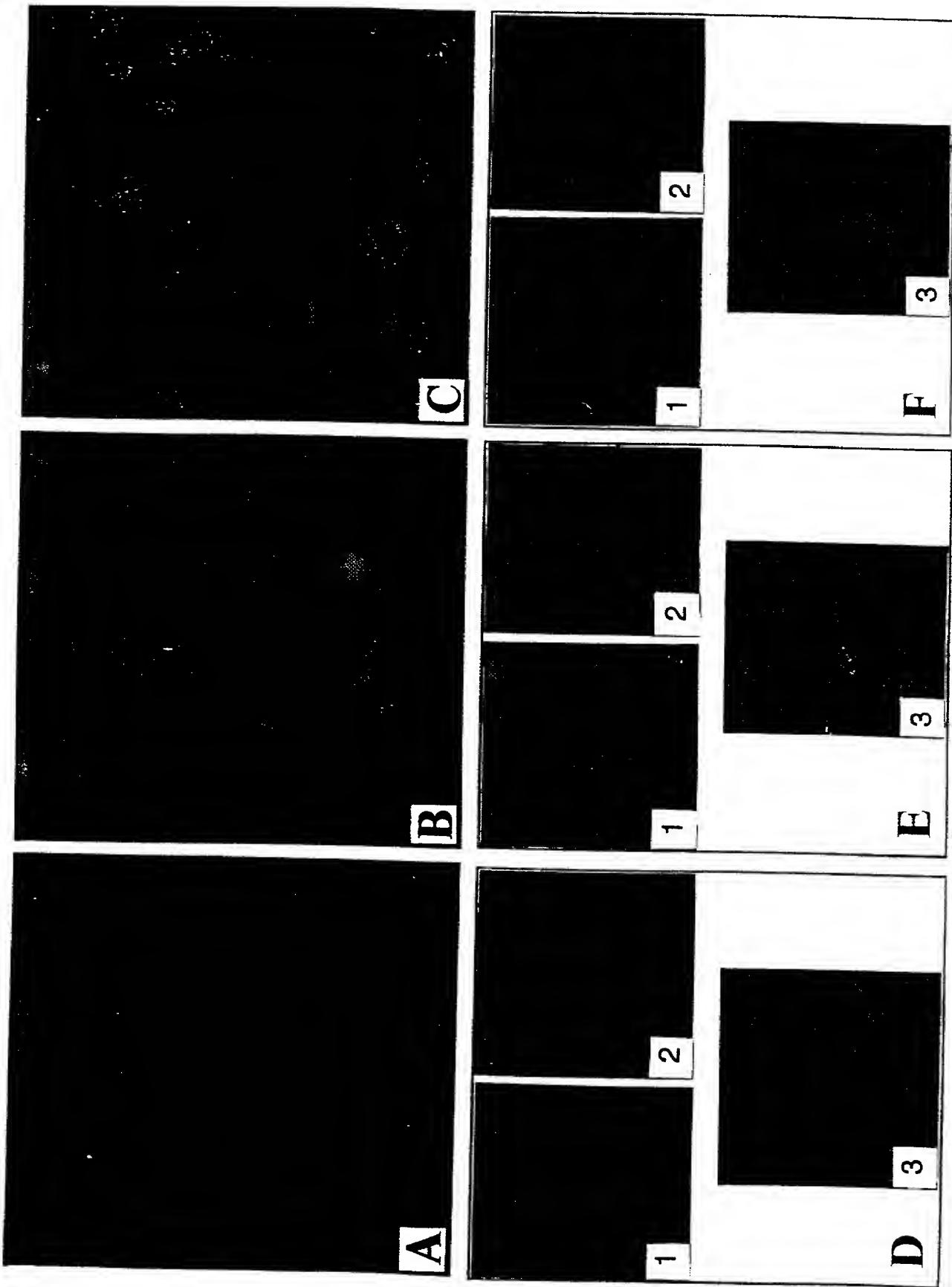
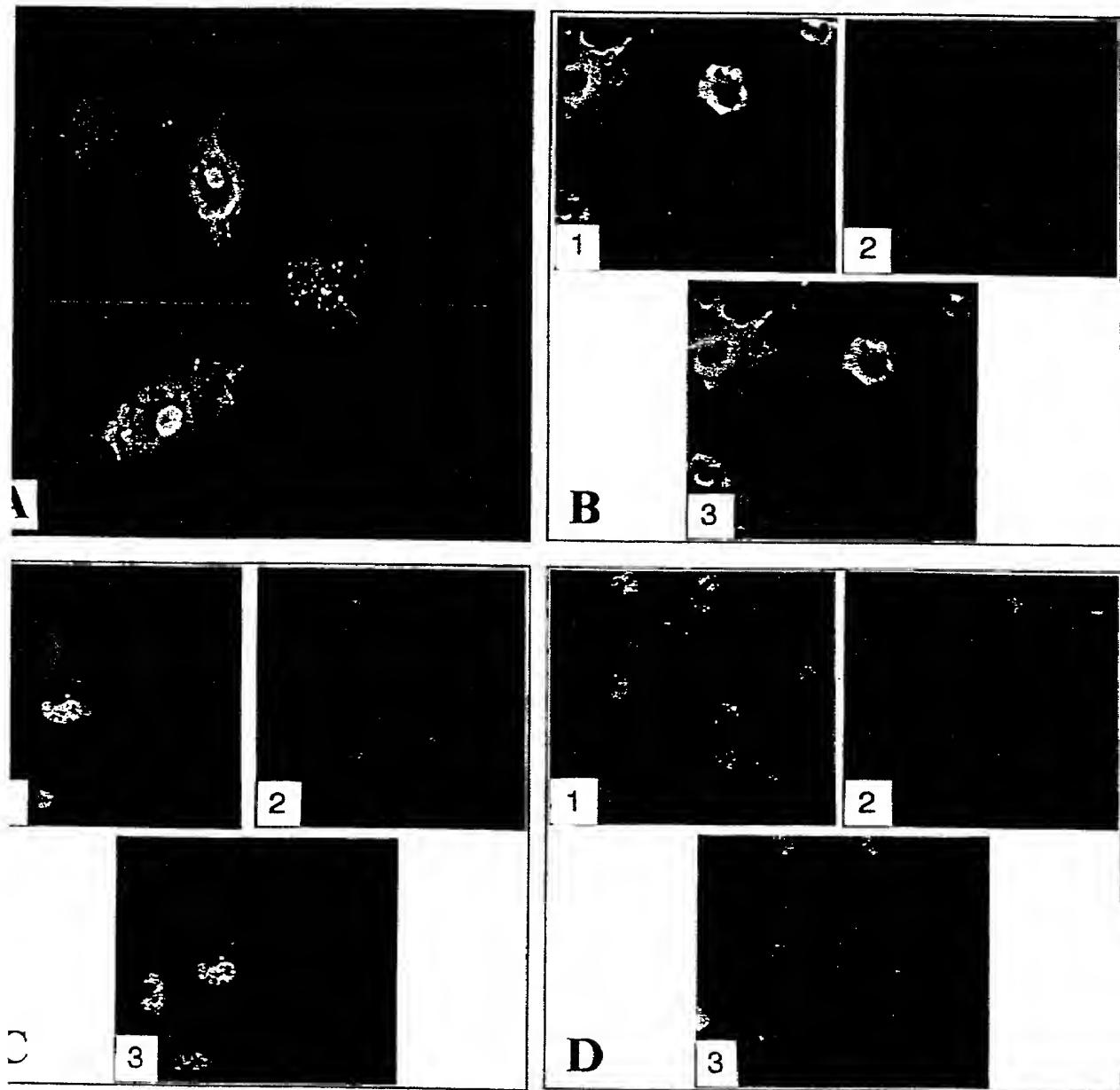


FIGURE 29



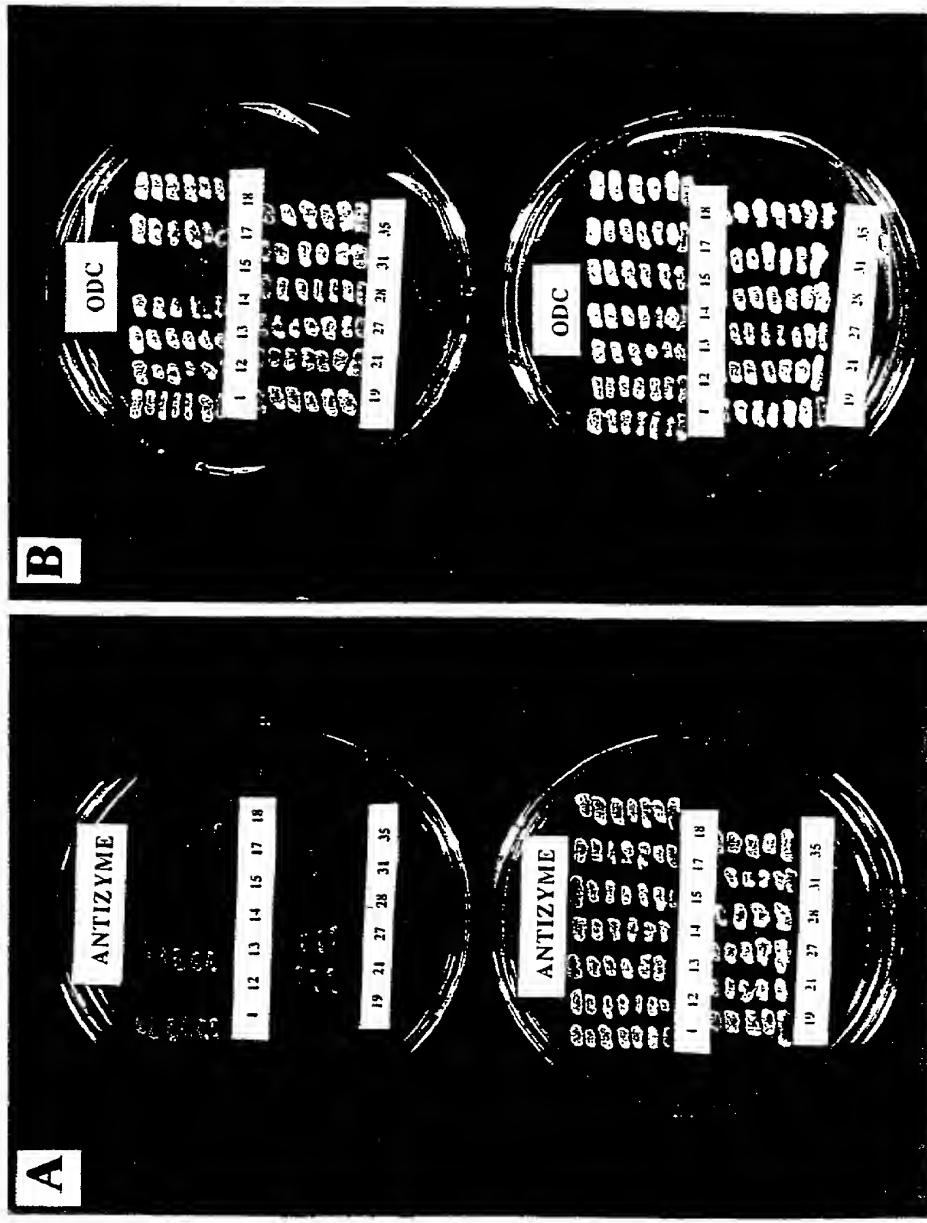


FIGURE 30

FIGURE 31

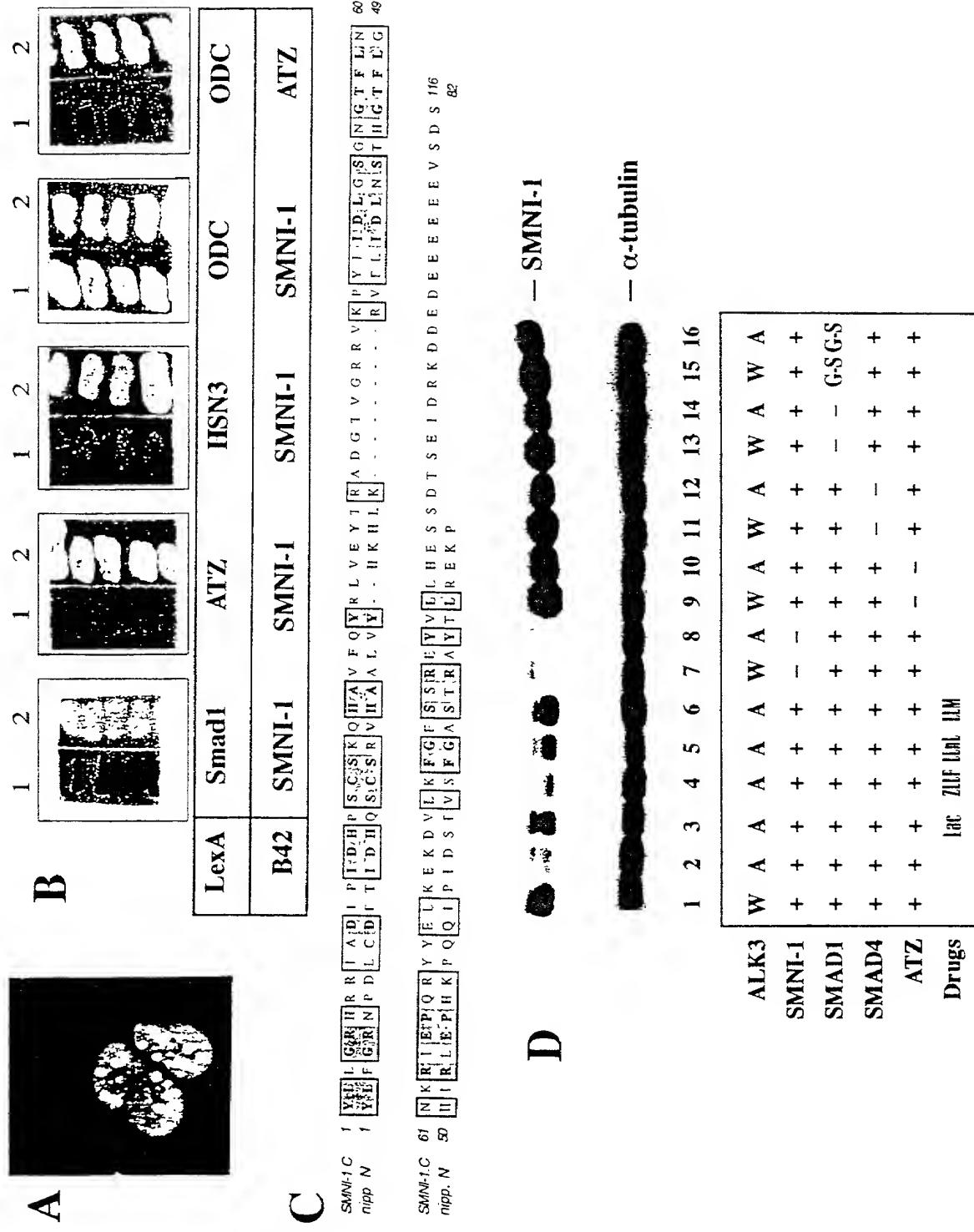


FIGURE 32

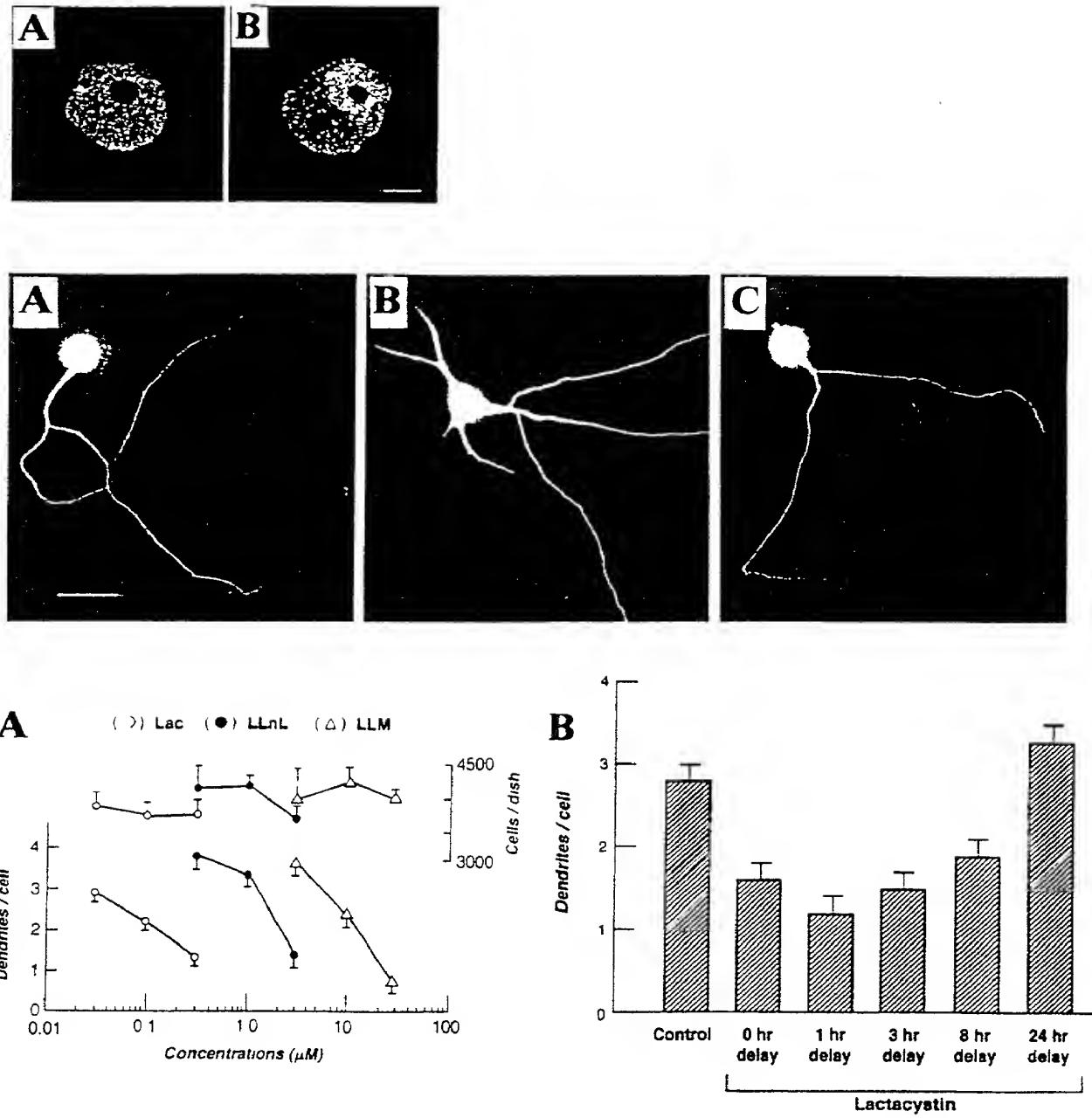


Figure 33

Clone S1+19 cDNA sequence (SEQ ID No. 23)

1 GAGGAGCTCAACTGATCTGTTTCTTCGCCAGCCAAAATCACAGAATG 50
51 AAGGCGGTGAAGAGCGAACGGGAGCGAGGGAGCCGGCGAAGACACCAGGA 100
101 CGGGGACGTGGTCTGCCGGCGGGGTGGTGGTGAAGCAGGAGCGTCTCA 150
151 GCCCAGAAGTCGCACCTCCGCCACCGCCGTCCGGACCCTCCGGTGGT 200
201 AGCCCCTCCGCCGACCAGCGAGCCGGCCGCTCGGGCCACCGCGGGAA 250
251 CCGAGCCCGAGGAGTTAGCCGGTCCCCACCCAAAAAGAAAAACAAGGCCT 300
301 CAGGGAGAAGAAGCAAGTCTCCTCGCAGTAAGAGAAACCGAAGTCCTCAC 350
351 CACTAACACAGTCAAAGTGAAGCAGGAGCGTGAGGATCATCCCCGGAGAGG 400
401 ACAGGGAGGATCGGCAGCACAGGAACCATCAGAACAGGAACACAGGAGAG 450
451 CTAGGAACAGTGACCGGGACAGACACCGGGGCCATTCCCACCAAAGGAGA 500
501 ACGTCTAACGAGAGGCCTGGGAGTGGCAGGGTCAGGGACGGGATCGAGA 550
551 CACTCAGAACCTGCAGGCTCAGGAAGAAGAGCAGGGAGTTATAATGCCA 600
601 GGCGACGGGAGCATGCCAGAGGAATGACGTTGGTGGCGGCAGTGAG 650
651 TCTCAGGAGTTGGTCTCGGCCTGGTGGCAACAACAAAGAAAAAGAGGT 700
701 GCCCGCTAAAGAAAAACCAAGCTTGAACCTTCTGGGCACCTCTTGAGG 750
751 ACACCAACACTTCCGGGTGTAGTCATTAAATATAGTGAGCCCCAGAA 800
801 GCACGTATCCCCAAAAAACGGTGGCGTCTCACCCATTAAAAATGATGA 850
851 GGTGCTTCCAGTCATGTACATACATCGACAGAGTGCCTACACTGGTC 900
901 GACACCGCCGCATTGCAGACATTCCAATTGATCACCCGTCTGTTCAAAG 950
951 CAGCATGCGGTCTTCAATATCGGCTTGTGGAATATACCCGTGCTGATGG 1000

1001 CACAGTTGCCGAAGAGTGAAGCCCTACATCATTGACCTTGGCTCAGGCA 1050
1051 ATGGAACCTTCTTAAACAACAAACGTATTGAGCCACAGAGATACTATGAA 1100
1101 CTAAAAGAAAAGGATGTACTCAAATTGGATTCACTAGCAGAGAATACGT 1150
1151 CTTGCTCCATGAGTCGTCGGACACTCTGAAATAGACAGGAAAGATGACG 1200
1201 AGGATGAGGAGGAGGAGGAAGAAGTGTCTGACAGCTAGCAAACTAAGAAC 1250
1251 CCAAACATTGATACACGGTTCCCTCTGGAAAGTCTTGATTGACTCAG 1300
1301 AGAGCACTATGGTGGTGGTCCAGCACTATGGTGCTCTGTAAATGCCTC 1350
1351 TTACTGCCTTAAGTCTTCCTCTGTTGCTGACCAGATTGTGTTACCATT 1400
1401 GAATACACTGACTAATGTTGTTAAACTTTCTGTGGCACCTTGGCCAC 1450
1451 ATGCCTGCAGGCATTGTTTCAGAACAGTCTCACCAATTACAACACACC 1500
1501 GTGTTTAGTAGAAGTGTGGTTAGTTGGTGCTTCAGAACTGCTG 1550
1551 CCTAGGAAACTATAAACCTGGTTAAGGGAAATCATGGCTTGTCTCT 1600
1601 TTGTACAGTTACTTATTTATAGGTGTTAAGCTTGTGGACCAGGTGT 1650
1651 TTTCTTTGGGGCGAACCCCTGAGCAGAGAATCTTACTAGGCTTGGTT 1700
1701 ATCACCAAAACAACCTCCAGTATATACCAAAGCTTGACTTGTGGAGCT 1750
1751 CTTGAGCTAGAAGTTGATTGCACTTATTTGGGGGTGGGAATG 1800
1801 TACTGCAGTCAGTAAACATTATTGACTGTTAACTTAAACAGATGCTTA 1850
1851 TGGCACCTGCTCAAGCCGTGACTGTACAGAAGGATCCTGGTTGCTACCA 1900
1901 GTGGGTGCTGATTGACATCACAAAGTGACTGAAATTGGCTGTGGATCTGT 1950
1951 TCTTTGTGAAAGAATTCTGATTCTCCATGGAGCATGTACACAACAATT 2000
2001 TTGATCATATTAACGTACTTCAGTTGCATTTATTCAAATGTTATC 2050
2051 TCTTTTTCTTGAGAAATAACTGTCAGTGACTGACAGCGTTCTTC 2100

2101 TTTATTCTAATAACATGTATAGATCTAAAGCAGGTTGTGTTACATG 2150
2151 TTTCTACACATTCATCCTTAAAAAGTTGTTGAGAGAGGTTGTATTTAC 2200
2201 CTTCCCAAGGTTGGAAAGCAGGGGAATTCCCAGTGTCCCTAGTTTCCAC 2250
2251 CAGAGGAATATGTGTAAGTAGCAAAGTATTCGCTGCTTACATATAGTGTG 2300
2301 TATGTATGTATATGTAAATTGTGTGTTAAAGAGCTGATACTGATTTTC 2350
2351 ATATGACAATGTTAGGCAAAGGCCTCCCTGCATTTGAAGAGCAGGTTTC 2400
2401 ATTTATATGTATTTGGATAAAAAAAATAAAATTGTAAATATAGCCCC 2450
2451 CAAAAA~~AAAAAAAAAAAAAAA~~AAAAA~~AAAAAAAAAAAAAAA~~AAAAA 2496

Figure 34

Clone S1+12-2 cDNA sequence (SEQ ID No. 24)

1 CCCACGCGTCCGGCCTCGGAGCAGCCATGATGGAAGGCCTGGACGACGGC 50
51 CCGGACTTCCTCTCAGAAGAGGACC CGCGACTTAAAGCAATAATGTAGA 100
101 TCTTCAAAGT GATGCTGCTCTGCAGGTGGACATTCTGATGCTTTAGTG 150
151 AGCGGGATAAAAGTAAAATTCACTGTTCACACAAAGAGTCATTGCCAAAT 200
201 TTTAACAAAACGAGTTTCAGTTGTTGGCAACATGAGGAATTATCTG 250
251 GCTTCATGATTCCCTTGGAAAATGAAGACTATGCAGGTTATATCATTG 300
301 CACCAGCACCAAGACCTGATTTGATGCTCAAGGGAAAAACTACAG 350
351 AAGCTTGGGAAGGAGAAGGGTCAATGACGAAGGAAGAATTCAAAAGAT 400
401 GAAACAGGAACTGGAAGCTGAATATTGGCAATATTCAAGAAGACAGTTG 450
451 CGATGCATGAAGT GTTCTGTCGTGGCAGCACATCCTATTTGAGA 500
501 AGAGATTTAAATTCCATGTCTTGGAAATATAATCAAGATTGAGTGT 550
551 GCGAGGAAAAATAAAAAGAGAAACTTGAAGACTTCTTAAAAACATGG 600
601 TTAAATCAGCAGATGGAGTAATCGTTCAGGAGTAAAGGATGTAGATGAT 650
651 TTCTTGAGCACGAACGAAACATTCTTTGGAGTATCATAACCGAGTTAA 700
701 GGATGCATCTGCTAAATCTGATAGAATGACAAGATCCCACAAAGTGCTG 750
751 CAGATGATTACAATAGAATTGGTTCTCATTATATGCTTAGGAACCTCAG 800
801 GATTCTACAGATATGCAAGTTCTCAAAGTTCAAGACTGTTCGA 850
851 TAAAACAAGAAAAATAGAAGCACGAGTGTCTGCTGATGAAGACCTCAAAC 900
901 TTTCTGATCTTTAAAATATTACTTAAGAGAATCTCAAGCTGCTAAGGAT 950
951 CT CCTGTATCGAAGGTCTAGGTCACTAGTGGATTATGAAAATGCTAATAA 1000

1001 AGCACTGGATAAAGCAAGAGCAAAAAATAAAGATGTTCTACAGGCCGAAA 1050
1051 CTTCCCAACAATTATGTTGTCAGAAATTGAAAAATATCTGAGTCTGCA 1100
1101 AAACAAGAACCTATAGATTTAAGACAAGAAGAGTTGCTGCATTAGAAA 1150
1151 AAATTTAGTGGAACTGGCAGAGTTAGAACGTGAAGCATGCAGAAAGGGTAATC 1200
1201 TACAGTTGCTGCAGAACTGCCTGGCAGTGTTAAATGGAGACACATAAGCC 1250
1251 ACACCTCGCCTTCCTGTTAAAAGGGCTGCCTCCTCAAATTATTT 1300
1301 TGTTTCTTAATGATGTTAACGCATTATGCTCACTGGAAACAAACAAAAA 1350
1351 GCAGCTGAAAAAGTGCATCAACTCCTCTTTCTGAGAAACATGGAGCAG 1400
1401 CGCACGCCAGGCGATGCCAGTCTGTGTGCCGTATGCCGCACTGTGTTTC 1450
1451 CCCATGACAGTGGTCCATCATCGTGCACTCGTCATACTCAGAAGTCCAAA 1500
1501 GTTCATTCTTCTTAAAGTAGCCTCTATAACTCTGTTATTAAATAAATA 1550
1551 GTATTCTTATGGCTGCCACTCTTATTACCTTAAATAATTCTGAAAT 1600
1601 TTAACCTTTCAGAATGCATTGTTGAAACAAGATAAAGATTGCCTTTTT 1650
1651 GAATTTTAAATTGTTTAAAGCATATACCACCTTAGTCATTCA 1700
1701 TGTATCCTGGTAAAGCATCTTAATCAGACTTATTTAATTACTGAATAT 1750
1751 TTCTTAGACGTTGGGACAGATTATGTAATCTTATAAGTATGATT 1800
1801 CTGAAGAAAAGCAAATGCATTAGTATGTTGCCTTAAACTGTAGACTAA 1850
1851 ACCAAGTATTGTAACACAGCGATAACAGTGATAGTTAACTCTA 1900
1901 TGGTCATTGATCACTCTGGAAAATGTGGAGTAGCTGTAATAATCTACT 1950
1951 CCTGTATTATGCTTT 1965

Figure 35

Clone S1+12-5 cDNA sequence (SEQ ID No. 25)

1 GCGGCGCCGAGTCCCGGGAGCGCGGTGGGGCAGCGGGCGCGGGCGGGC 50
51 GCGGGGACCGCGCCAGCCTGTCACTAATGTCTCCTTGTGTCTCCCCCA 100
101 TCTCATCCTTTCCCCGGCGCGCGTGCCTGCCGACCCCACAGGAAGGCC 150
151 TGGACGACGGCCC GGACTTCCTCTCAGAAGAGGGACCGCGGACTAAAGCA 200
201 ATAAATGTAGATCTCAAAGTGTGCTGCTGCAGGTGGACATTCTGA 250
251 TGCTCTTAGTGAGCGGGATAAAAGTAAAATTCACTGTTCACACAAAGAGTT 300
301 CATTGCCAAATTTAAACAAACGAGTTTCAGTTGTTCGGCAACATGAG 350
351 GAATTATCTGGCTTCATGATTCCCTTGTGAAAATGAAGACTATGCAGG 400
401 TTATATCATTCCACCAGCACCAAGACCTGATTTGATGCTCAAGGG 450
451 AAAAACTACAGAACGCTTGGTGAAGGAGAAGGGTCAATGACGAAGGAAGAA 500
501 TTCACAAAGATGAAACAGGAACGGAACTGGAAGCGGGTTGGATAACAGAGAACCT 550
551 TGGTTTATTCTACTGCTACCTCCATCCTCTGCATCCTCTTTGTCT 600
601 TCACTGAATGACTACCCTCACAGAGATCAAACCTCTCCATCATTGGTCC 650
651 TGCTGGTTGCTGTGAATATTGGCAATATTCAAGAACAGACAGTTGCGATG 700
701 CATGAAGTGTCTGTGTGGCAGCACATCCTATTTGAGAACAGAGA 750
751 TTTAAATTCATGTCTCTGGAAATATAATCAAGATTTGAGTGTGCGAG 800
801 GAAAAAAATAAAAAGAGAAACTTGAAGACTTCTTAAAAACATGGTTAAA 850
851 TCAGCAGATGGAGTAATCGTTCAAGGAGTAAAGGATGTAGATGATTCTT 900
901 TGAGCACGAACGAACATTCTTTGGAGTATCATAACCGAGTTAAGGATG 950
951 CATCTGCTAAATCTGATAGAATGACAAGATCCCACAAAGTGCTGCAGAT 1000

1001 GATTACAATAGAATTGGTCTTCATTATATGCTTAGGAACTCAGGATTC 1050
1051 TACAGATATATGCAAGTTCTCAAAGTTCAGAACTGTTCGATAAAA 1100
1151 CAAGAAAAATAGAACGACGAGTGTCTGCTGATGAAGACCTCAAACCTTCT 1150
1201 GATCTTTAAAATATTACTTAAGAGAACTCAAGCTGCTAAGGATCTCCT 1200
1251 GTATCGAAGGTCTAGGTCACTAGTGGATTATGAAAATGCTAATAAAGCAC 1250
1301 TGGATAAAGCAAGAGCAAAAAATAAAGATGTTCTACAGGCCGAAACTCC 1300
1351 CAACAATTATGTTGCAGAAATTGAAAAAATATCTGAGTCTGCAAAACA 1350
1401 AGAACTTATAGATTTAAGACAAGAAGAGTTGCTGCATTCAAGAAAAATT 1400
1451 TAGTGGAACTGGCAGAGTTAGAACTGAAGCATGCAAAGGGTAATCTACAG 1450
1501 TTGCTGCAGAACTGCCTGGCAGTGTAAATGGAGACACATAAGCCACACT 1500
1551 CCGCCTTCCTGTTAAAAGGGCTGCCTCCTCAAATTTATTTGTTT 1550
1601 TCTTAATGATGTTAACGCATTATGCTCACTGGAAACAAACAAAAAGCAGC 1600
1651 TGAAAAAGTGCATCAACTCCTCTTTCTGAGAAACATGGAGCAGCGCAC 1650
1701 GCCCAGGCGATGCCAGTCTGTGTGCCGTGATGCCGCACTGTGTTCCCCAT 1700
1751 GACAGTGGTCCATCGTGCACTCGTCACTCAGAAGTCCAAAGTTCA 1750
1801 TTCTTCTTAAAGTAGCCTCTATAACTCTGTTATTTATAAATAGTATT 1800
1851 CCTTATGGCTGCCACTCTTATTTACCTTAAATAATTCTGAAATTAAAC 1850
1901 CTTTCAGAATGCATTGTTGAAACAAGATAAAGATTGCCTTTTGAAATT 1900
1951 TTTAAATTTGTTTAAAAGCATATACCACCTTAGTTCAATTGTAT 2000
2001 CCTGGTAAAGCATCTTAATCAGACTTATTTAATTACTGAATATTCTT 2050
2151 AGACGTTGGGACAGATTATGTAATCTTATAAGTATGATTCTGAA 2100
3001 GAAAAGCAAATGCATTAGTATGTTGCCTTAAACTGTAGACTAAACCAA 2150

3151 GTATTGTAAAATAAACAGCGATAACAGTGATAGTTTAACTCTATGGTC 2200
3201 ATTGTATCACTCTGGAAAATGTGGAGTAGCTGTAATAATCTAATCCTGT 2250
3251 ATTATGCTTAAAAAAAAAAAAAAA 2300
3301 AAAAAAAAAAAAAAAA 3319

Figure 36

clone S1+27 cDNA sequence (SEQ ID No. 26)

1 GTCGACCCACGCCTCGGCCGGCGTGGGAGGGTCCCGAGGTGGGGTCG 50
51 GGGCGGGATGGCTGCAGCGCGGCCGGGCCGGAGCGGGCCCTGGCGG 100
101 CCCAGGAGAAGCAGTTCCCGCCGGCGCTGCTGAGTTCTTCATCTAAC 150
151 CCGCGCTTCGGGCCGCGAAGGACAGGAGGAAAATAAGATTATTAA 200
201 TCATCCAAATGAGGTAGAAAAGAATGAGAAGATTAGAAATGTCGGATTGT 250
251 GTGAAGCTATTGTACAGTTACAAGGACATTAGCCCATCAAAACCTGCA 300
301 AAATCTTACATACACAGAAGAACAGACAGTTCTCAATGAACCAGAAGA 350
351 AAATTCTGGATGGCATGGTTGTTCGGAATCCTATAATTGAAAAACAGA 400
401 GTAAAGATGGAAAACCAGTTATTGAATATCAAGAGGAGGAGTTGGAC 450
451 AAGGTTTATAGCTCGGTGCTCGGCAGTGCTACAGCATGTACAAGCTTT 500
501 TAATGGTACATTCTGAAAGCCATGGAAGACGGAGGCGTCAAGCTCTGA 550
551 AAGAAAAATTAGAGAAATTCTCCATCGGTATTGCAAACGCTACATTG 600
601 CAGTCATGTGACCTACTTGACATTGGTGGAAATCAGCTTCTCCGTT 650
651 GGATAAAATGACTTATTGAAAATCCAGTCCTTATTAATAAGAATGGAG 700
701 GAAAGCCTGAATATAGTCAAATAACACTGCTTTCTATAACGATCAGCT 750
751 CATCTGGAGTGGATTAGAACAGATGACATGAGAATTATACAAATACC 800
801 TTACCACCTCCCTTCCAGGCACATCGAACCTGAGTTAGCAGGAAGG 850
851 GATTCTCCAATAAGAGCAGAAATGCCAGGAAATCTCAACACTATGGAAG 900
901 ATTTCTTACCGGACCTTGAAACCTCAATGATCCAGATGCAAATGCAGAT 950
951 TCCCCAAAATTTGTAAATACAGATGACACTTATGAAGAGCTCCATTAA 1000

1001 ATCGTTATAAGGCCATGAGTGC GGCTGTGCTTATGATCGACGCCTC 1050
1051 TGTCCACCCAACGTTGGATTTGCCGAAGACTGGACAGCATCGTTGGC 1100
1101 CCCAGCTCACAGTGCTGGCCTCTGACATCTGTGAACAGTTAACATCAAC 1150
1151 AAGAGGATGTCGGGTCTGAGAAAGAACCCCAGTTAAGTTATCTACTT 1200
1201 CAACCACATGAATCTGCCGAGAAGAGCACAGTCACATGAGGAAAACGC 1250
1251 CCAGCGTGTGCTCACTCCGTGCACCCGGATTAAATGAAGATTCTCGGT 1300
1301 GACATCAACAGTGACTTACCAAGAGTGGATGAAGATGAGGAGATCATTGT 1350
1351 GAAGGCCATGAGTGATTACTGGGTTGGAAAGAAGTCTGATCGCGGG 1400
1401 AGCTCTATGTTATTTGAATCAAAAAAATGCAAACCTGATTGAAGTAAAT 1450
1451 GAGGTCAAGAAACTTGTGCAACGCAGTTCAACAACATCTTCTTCTGGA 1500
1501 TTGACGGATGACGGCTCACTGAGAGCATATCTAAAAAACACTCTGCAAAC 1550
1551 ATTTGGTCACATGCAAGTTAGTGGTCAATGACGGACTGCATTAGGACA 1600
1601 AGGGTAAAGCAATACTGCTTGAAGAATCACATTCGACTCGGTCTGCT 1650
1651 GATCTGAGGTTTTAGATTTAAATATTTATGTGGAATTAATTAAAGGTA 1700
1701 GTTGGCTATATCGCTATCATTGACATTATGTGAATATTT 1750
1751 ACTGGAAAATAAGACTAATAATTGTTAAAAGTTTAAAAAAAAAAAAAA 1800
1801 AAAAAAAAAAAAAAAAAAAAAAGGGCGGCC 1834

Figure 37

clone S1+28 cDNA sequence (SEQ ID No. 27)

1 GTTGCGAGTTGATGCTAAGGCCTGCCTCAGAATAAGCCAAGGCCTCTCA 50
51 CTCAGAACAGAAATTGCTCAGAGACGTGAGCGTGCAAGACAAAGGCATGCA 100
101 GAGAACGCTTGCAGCAGCACAGGGACAGGCACCCTGGAGGCCACCCAAGA 150
151 TGGGAGTGCCATTGAAACATGTCCAAAAGGAGACGAGCCAAGAGGTGACG 200
201 AGCAACAGGTGGAAAGTATGACCCCTAACACCTGTGCTCCAGGAAGAAAAC 250
251 AACCAAGAGTCTTTATTGCATTGCTCGGGTGTTCAGTGGTGTGGCTCG 300
301 AAGAGGAAAGAAAATTTGTCTGGGCCAAATACAGTCCTCTTGAGT 350
351 TTTTACGAAGGGTACCATTATGCTTCTCAGCTCCACCAGATGGCCTCCCC 400
401 CAAGTCCCCACATGGCATACTGTGCTCTGGAAAACCTGTATCTTCTGAT 450
451 GGGAAAGGAACTGGAATATCTAGAGGAGGTACCTCCAGGAAATGTGCTAG 500
501 GAATAGGAGGCCTTCAAGATTTGTGCTGAAATCTGCAACACTGTGTAGC 550
551 CTGCCATCCTGCCACCATTATACCACTCAACTTCGAAGCCACTCCTAT 600
601 TGTGAGAGTTGCTGTTGAACCAAAACATCCAAGTGAATGCCTCAGCTCG 650
651 TAAAAGGAATGAAACTGTTAACCCAGGCTGATCCCTGTGTCCAGATTTA 700
701 ATTCAGGAAACGGGAGAGCACGTTTAGTCACAGCAGGAGAAGTCCACCT 750
751 TCAGCGATGCCTGGATGACTAAAAGAAAGGTTGCAAAGATTCATATCA 800
801 GTGTATCTGAACCTATTATTCCATTAGAGAAACAATCACAAAACCCCCA 850
851 AAAGTTGACATGGTCAATGAAGAAATAGGCAAACAGCAAAAGTTGCAGT 900
901 CATAACACAAATGAAAGAAGATCAAAGCAAATCCCTGAAGGAATCCAAG 950
951 TTGACTCTGACGGGCTAATCACCATAACAACCTCCAAATAACTGCCACG 1000

1001 CTCAGTGTGAGCCATGCCCTCCAGAAGAACGACCCAGATTCTGGA 1050
1051 AGAAAATAGTGATTGATTGTTCTATGGAGCAGTTGACATCCTCTTG 1100
1101 ATGAGGGTGAAAATACTCACATGATTCATCAGAAGACCCAAGAGAAAATT 1150
1151 TGGGAATTCAAAGGAAAACTGGAGCAACACCTAACAGGGAGAAGATGGAG 1200
1201 GAACATTGTTGACCAAATCTGGTCATTGGCCAAGAAAATGTGGGCCA 1250
1251 ACATACTAGTCAATAAAAGTGAAGATTTCAGAACTCAGTATGGACAGGT 1300
1301 CCAGCTGACAAAGCTCAAAAGAAGCCAGTAGATACCGAGATTGGCAA 1350
1351 TAGCATTGTGAGTGGCTTCCAAGTAGCAACCCTCTGGCCCCATGTGTG 1400
1401 AGGAGCCTCTCATGGGTGTCGTTCTGGAAAAATGGACCTAAGT 1450
1451 AAATTTGAGGAACAAGGAGCAAGTGATCTGGCAAAAGAGGACAGGAGGAA 1500
1501 AATGAAACCTGTTCTGGTGAAATGAAAACCAAGAGCTACAAGATGGCTG 1550
1551 CTCTGAGGCCTTGAGAAGAGGACATCACAGAAAGGAGAATCTCCACTCA 1600
1601 CTGACTGCTATGGACCTTCTCAGGACAGCTAATTGCCACCATGAAAGAA 1650
1651 GCATGTCGCTATGCACTGCAAGTGAAACCTCAGCGCCTGATGGCAGCTAT 1700
1701 GTACACATGTGACATCATGCCACTGGTGATGTTCTGGTCGAGTCTATG 1750
1751 CTGTCTTGTCAAAGAGAGAAGGTCGGGTACTTCAAGAAGAAATGAAAGAA 1800
1801 GGGACAGACATGTTCATCATCAAGGCTGTGCTGCCTGTTGCTGAAAGCTT 1850
1851 TGGTTTGCTGATGAAATCAGGAAGAGGACAAGTGGCCTGGCCAGCCCAC 1900
1901 AACTAGTATTGCCATTGGGAGATCATTCCCAGTGACCCCTCTGGGTGC 1950
1951 CAACTACTGAGGAGGAATACTTGCACTTGGGAGAAGGCTGACTCTGAG 2000
2001 AACCAAGCCCGGAAGTACATGAACGCAGTACGAAAGCGGAAGGGCTTA 2050
2051 TGTGGAAGAAAAGATTGTGGAGCATGCAGAAAAGCAGAGGACACTCAGCA 2100

2101 AAAATAAGTAGCTACCTACTACTGGTGGATTCTTCCTTATAGTGAATT 2150
2201 TAAAAGTATCATCAAGGGTTAATATTGGGAAAATTCTTTGCCACAT 2250
2251 TATCTCTGTTATTCACTTCATAAAAGTTGATCCATATAAATATTTAA 2300
2301 AGAGGGATGTTAAAAAAAAAAAAAAA 2327